Project Operating Plan for Savannah River Site TRU & Solid Waste Recovery Act Project

BACKGROUND

Recovery Act Project:	Savannah River Site TRU & Solid Waste Recovery Act Project
TAFS:	89-09/10-0253
Project Identification Code:	2002153
Recovery Act Bill Reference:	PL 111-5, Title IV – Energy and Water Development, Defense Environmental Cleanup (H.R. 1-26)
Project Cost:	$737,936,000
Budget Authority:	06049, FD.05.30.00.0
Program Office:	Environmental Management (EM)
Recovery Program Plan:	EM - Defense
Management Office:	Jack Craig, Acting Manager, Savannah River Operations Office, jack.craig@emcbc.doe.gov, 803-952-6337 Rodrigo V. Rimando, Jr. SR Recovery Act Program Federal Project Director, Savannah River Operations Office, rodrigo.rimando@srs.gov, 803-952-8647

LEADS

Implementation:	Savannah River Site (SRS)
Breakthrough:	N/A
Laboratory:	N/A

I SUMMARY & OBJECTIVES

Introduction

This Recovery Act Project is a portfolio of programs, projects and activities that comprise, in part, the Savannah River Recovery Act Program (SRRAP) at the Savannah River Site in Aiken, South Carolina. Including this Recovery Act Project, the SRRAP is composed of five Recovery Act Projects that represent a total investment of $1,615,400,000. The other four are: (1) SRS D&D P & R Areas Recovery Act Project, Identification Code 2002150; (2) SRS D&D M & D Areas Recovery Act Project, Identification Code 2002151; (3) SRS D&D, Soil & Groundwater Activities Site-Wide Recovery Act Project, Identification Code 2002152; and (4) SRS Liquid Waste Tank Infrastructure Recovery Act Project, Identification Code 2002290.

SRS Overview

The SRS was constructed during the early 1950s to produce the basic materials used in the fabrication of nuclear weapons in support of our nation's defense programs. Production has since stopped, but SRS remains a key DOE industrial complex dedicated to the safe stabilization, treatment and disposition of legacy nuclear materials, spent nuclear fuel and radioactive waste. Also, a major focus is the cleanup of legacy materials, facilities and waste sites left from the Cold War.

The Office of Environmental Management is the Lead Program Secretarial Office (LPSO), and has landlord responsibility for the SRS with specific responsibilities that include site-wide integration and planning, and implementation of EM mission activities in the areas of radioactive solid and liquid waste disposition, nuclear materials stabilization and disposition, environmental remediation, non-nuclear facility demolition and removal and nuclear facility decommissioning.

The SRS is government-owned and contractor-operated (GOCO). As such, the DOE enters into management and operating (M&O) contracts as well as goods and services contracts to execute and deliver mission objectives.

The DOE derives its authority for the development and the regulation of the uses of nuclear materials and facilities in the United States from the *Atomic Energy Act of 1946*, Public Law (P.L.) 79-585, as amended by the *Atomic Energy Act Amendments of 1954*, P.L. 83-703, and from the *Energy Reorganization Act of 1974*, P.L. 93-438.

On November 21, 1989, the SRS (Comprehensive Environmental Response, Compensation, and Liability Information System Identification Number SC1890008989) was included on the National Priorities List (48184 - 48189 *Federal Register* / Vol. 54, No. 223), which is Appendix B of the *National Oil and Hazardous Substances Pollution Contingency Plan*, making the entire SRS subject to provisions and requirements of CERCLA. As such, DOE's environmental remediation and hazardous waste management activities at SRS are governed by:

- *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA), P.L. 96-510,, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), P.L. 99-499;
- *Resource Conservation and Recovery Act of 1976* (RCRA), P.L. 94-580, as amended by *Hazardous and Solid Wastes Amendments of 1984*, P.L. 98-616; and
- *National Environmental Policy Act of 1969* (NEPA), P.L. 91-190, as amended by P.L. 94-52, July 3, 1975, P.L. 94-83, August 9, 1975, and P.L. 97-258, § 4(b), Sept. 13, 1982).

In accordance with Section 120(e) of CERCLA, the DOE entered into interagency agreements (IAG) with the United States Environmental Protection Agency (USEPA) and South Carolina Department of Health and Environmental Control (SCDHEC) for the expeditious completion of remedial action at the facility.

Basis for SRS Recovery Act Projects

Office of Environmental Management identified several opportunities to significantly reduce its cleanup program lifecycle costs by making upfront investments on its core mission activities as described in *Report to Congress: Status of Environmental Management Initiatives to Accelerate the Reduction of Environmental Risks and Challenges Posed by the Legacy of the Cold War* (January 2009). These upfront investments include:

- Near-Term Completion – Accelerating the completion of mission activities at EM's smaller sites and at DOE's national laboratories thereby reducing EM's remaining work to the larger sites;
- Footprint Reduction – Accelerating the completion of environmental (soil and groundwater) remediation and facility deactivation and decommissioning at the larger sites thereby reducing EM's remaining work to the areas of the site where long-term mission activities still need to be completed;
- Solid Radioactive Waste Disposal – Accelerating the disposal of transuranic waste and low-level radioactive waste in an effort to maximize the use of readily available disposal facilities and capabilities.

In executing the SRRAP, EM implements the project management requirements of DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, and Office of Management and Budget (OMB) Circular No. A–11, Part 7, *Planning, Budgeting, Acquisition, and Management of Capital Assets*. Due to the unique nature under which these projects are funded and the Congressional mandate to immediately execute "shovel ready" projects, DOE requirements are implemented in a manner that allows for the immediate retention and hiring of workers. This tailored approach continues to maintain the utility and value of Federal leadership and accountability by assignment of Federal Project Directors who are supported by Integrated Project Teams; clear technical scope definition; positive configuration control over credible performance baselines; smart risk management and uncertainty awareness; and sound project controls, including earned value management. Incorporating safety early into design and through execution remains a key feature of the project management approach.

This Recovery Act Project implements the programmatic requirements in *EM RECOVERY ACT PROGRAM: Portfolio Management Framework*, (RAPD-EM-09004), Revision 0, July 10, 2009. Portfolio Management Framework describes a new framework for managing EM's portfolio of PPAs that differentiates capital asset projects from non-capital asset activities and programs.

In EM's Integrated Planning, Accountability, and Budgeting System, this Recovery Act Project is decomposed to three separate reporting elements:

1. SR-0011C.R1.1, Canyon Complex Support;
2. SR-0013.R1.1, Solid Waste Disposition; and

3. SR-0013.R1.2, Accelerated TRU Waste Disposition.

Statement of Work

This Recovery Act Project includes general plant projects, environmental management operational activities, waste management operational activities, and landlord (LPSO) program activities under the programmatic responsibility of EM

The following is a list of the scope divided among the IPABS reporting elements.

SR-0011C.R1.1, Canyon Complex Support To TRU Waste Program

- Modifications to canyon facilities to support accelerated transuranic waste drum and box remediation
- Partial deactivation or reactivation of F Canyon systems to facilitate TRU waste processing in the warm side of the canyon
- Support from F Canyon facilities and personnel vital to the accomplishment of the TRU Waste remediation effort including cognizant engineering support from design authorities knowledgeable in the canyon support systems and their operation.

SR-0013.R1.1, Solid Waste Disposition

- Ongoing operations of the solid waste management program for SRS, including the storage, treatment, and/or disposal, on-site and off-site, of low-level radioactive waste (LLW), mixed low-level radioactive and hazardous waste (MLLW), sanitary waste, and hazardous waste
- Transfer of approximately 14,801 drums of depleted uranium oxide (DUO) to an off-site facility(s) for interim storage for about five years pending final disposition
- Transfer of approximately 805 drums of DUO (material) to DOE's Oak Ridge Reservation (Oak Ridge National Laboratory) (TN) for re-use
- Transfer of one 20,000 square-foot storage facility in F Area to NNSA
- Dispose of the substantial quantities of hazardous, LLW, and MLLW generated by other SRS Recovery Act projects associated with deactivation, decommissioning, demolition and environmental restoration activities
- Closure of five LLW disposal trenches
- Management and curation of cold war artifacts that are preserved in accordance with National Historic Preservation Act including modifications to 315-M Curation Facility and development of the Cultural Resource Management Plan Feasibility Study

SR-0013.R1.2, Accelerated TRU Waste Disposition

The scope of the Accelerated TRU Waste Disposition project is the compliant disposition of 5,000 cubic meters of legacy transuranic waste off the SRS site. The majority of the TRU waste is currently stored in non-shippable, aged, deteriorating containers that must be repackaged and remediated before shipment to the Waste Isolation Pilot Plant (WIPP) located in Carlsbad, New Mexico. The 5,000 cubic meters of TRU waste includes in excess of 1,500 miscellaneous boxed containers and over 1,250 drum type containers stored under earthen cover containing over 350,000 curies of plutonium-238 or plutonium-239.

To accomplish this large scale work scope in the allotted time, the capabilities of three areas at SRS will be required; E Area (Solid Waste Management Facility), H Canyon and F Canyon. The E Area facilities currently store the TRU waste and will be used to house equipment and operations to characterize the TRU waste and ship the waste to WIPP. The shipment of the TRU waste to WIPP will be accomplished using approved shipping configurations including standard large boxes (SLBs), standard waste boxes (SWBs), ten drum overpacks (TDOPs) and 55 gallon drums. The waste will be transferred to WIPP in TRUPACT-II or TRUPACT-III shipping casks following final characterization and certification of the acceptability of the waste containers

Additionally, E Area will remediate and repackage low content non-compliant containers into shippable box or drum configurations. To accomplish these remediation activities, existing ventilated containment structures on Pad 6 and in Cell 11 will be modified, staffed and operated to perform the remediation. The activity requires substantial controls due to the high hazards associated with exposure to the principal contaminant of the waste, Pu-238. High airborne concentrations of Pu-238 are anticipated to be generated during hand-on remediation of the waste inside these ventilated enclosures. To address these hazards the facilities are being modified to incorporate controls such as supplemental local ventilation and secondary containment in addition to the three levels of PPE and supplied air workers will don.

The F-Canyon facilities will be utilized for the remediation and repackaging of higher content non-compliant drums and medium sized boxes of TRU waste. This waste will be initially characterized in E area and overpacked or properly wrapped to enable on-site transport of the more than 40 year old containers. F Canyon is presently partially deactivated. To accomplish the TRU scope, select areas of the canyon (Warm Crane and Truck Well Areas) will be reactivated and modified to safely handle the waste. These modifications will be substantial in the Truckwell where an inner airlock structure will be erected and significant ventilation controls provided. The safety basis documentation will be modified to permit the materials to be received into these areas of the canyon with the hands-on remediation conducted including aggressive size reduction activities. The remediation and size reduction will be conducted with hand tools due to fire hazard concerns. Within the Warm Crane area an existing ventilated enclosure is being modified to remediate approximately 1,250 very high content (some >1,500 Ci Plutonium-238) drums.

H Canyon will be employed to repackage the waste within the very large boxes in the TRU waste inventory into other containers so as to produce feed for the F Canyon facility. Additionally, H Canyon will take a percentage of the high content waste boxes and conduct hands-on remediation within the warm shop area of the canyon. To perform these activities, modifications will be made to this area of the canyon to provide supplemental ventilation controls and improved egress to adhere to the life safety codes.

A portion of the existing TRU waste inventory includes highly (count rates of about 100 million disintegrations per minute for Pu-238) contaminated oversized items. The work force in both H Canyon and F Canyon will take implement size reduction only to the extent necessary to repackage the wastes into an SLB. The amount of size reduction necessary is not expected to be significant but will include steel vessels, lathe bases, and glove boxes. This work scope requires more intensive hands-on work, with higher work exposure doses, and a higher probability of contamination spread. The experience accumulated to date serves as the basis for the processing rates in both F and H Canyons.

Additionally in order to promote the efficient disposal of the TRU waste at WIPP, the processing rates have been accelerated at certain facilities through the application of additional shifts. These facilities include the drum line in F Canyon and characterization operations in E Area.

In addition to the 5,000 cubic meters of TRU legacy waste planned for disposition, another 200 cubic meters of TRU waste remains in inventory at SRS. This waste exhibits characteristics that present significant challenges to the repackaging and remediation of the waste into compliant shipping containers. The project scope includes the delineation of an implementable plan for the repackaging of this remaining inventory. This waste volume is considered very difficult by virtue of the plutonium content and highly elevated radiation fields. Planning activities, completion of a Technical Implementation Plan, safe guard & security requirements, and pre-disposal activities to address some or the entire remaining inventory will be accomplished as part of this SRRAP. While the disposition of this remaining 200 cubic meters of extremely difficult waste remains outside the present scope of the project, the project team has taken on a stretch commitment to attempt to accomplish the disposition of all or a portion of this remaining inventory by funding the activities through efficiency savings in other areas of the program.

Changes during Final Scope Definitization

Scope deletions include:

- Treatment and disposal of mixed and low level wastes in FY 2012
- Elimination of the planned expansion of the E Area low level waste burial ground as waste generation projections no longer warrant it.
- Reduced F Canyon TRU support in FY 2011. No F Canyon TRU support in FY 2012.

Scope additions include:

- Solid Waste Disposition
    - Management and disposition of additional volumes of mixed, low level, and sanitary wastes generated through the incremental footprint reduction activities
- Transuranic Waste
    - E Area
        - Extend Operations and add shifts to select activities such as vent and purge, PHAS, and the preparation activities (radiological surveying, non-destructive assay, and radiography) to support onsite movements and shipments of the waste
        - Increase the loading and shipping activities for the additional volume of legacy waste
        - Characterize, size reduce and remediate the inventory of Master Slave Manipulators into SWBs or SLBs
        - Procure the necessary additional containers to support the packaging and shipping of the additional 2,880 cubic meters of waste
        - Reactivate and modify as required the existing enclosure on Pad 6 to repack and remediate non-compliant low content (<10 curies) SWBs , B25s and 85 gallon overpack drums
        - Reactivate, modify as required, and operate the existing enclosure in Cell 11 to repack, as necessary, and remediate existing SLB2 containers with relatively low contents (<10 curies) of
        - Install and operate an unloading area to support the retrieval of high content drums and boxes from the Pad 1 culverts previously planned for H Canyon
        - Support WIPP in the fabrication of TRUPACT III shipping casks to facilitate the disposition of compliantly packaged SLB2 containers
        - Support the necessary hardware and software upgrades to bring the Large Box Non-destructive Examination system into a configuration that supports WIPP certification
        - Support WIPP in the deployment and use of a TRUPACT III loading system at SRS

- F Canyon
    - Accelerate the processing of legacy non-compliant drums to facilitate early shipments of waste to WIPP through the addition of work shifts
    - Revise the design, install and extend the operations of the planned F Canyon Box Remediation Enclosure to address the additional volume (2,880 cubic meters) and the significant hazards associated with opening the high concentration Pu-238 bearing boxes of TRU waste
    - Reactivate the warm crane to support the construction of the box remediation enclosure in the Truckwell of the canyon

- H Canyon
    - Make the necessary modifications to the facility and supporting DSA to utilize the existing warm shop of the canyon to perform hands-on remediation and repackaging of high Pu-238 content boxed waste into SWBs
    - Extend the operations of the H canyon TRU support operations to accommodate the additional volume of TRU waste
    - Install vent and purge capability to remove the potential hydrogen build-up in high content Pad 1 containers
    - Upgrade certain canyon safety class components to meet contemporary seismic qualification standards that permit high content plutonium contaminated waste to be repackaged in the warm area of the canyon

Potential New Work

Based on the potential availability of funds from unused management reserve and contingency funds and from cost efficiencies in executing the planned projects, the following additional candidate projects have been identified should funding become available.

In the event additional Recovery Act funding becomes available, the EM mission activities described below will be evaluated for inclusion in this Recovery Act Project.

- $200m^3$ of TRU waste scope
- Additional Lead recycling
- Disposition of Sealed Sources
- Disposition of Tritiated Oil

- Disposition of Tritiated Equipment
- Disposition of Cadmium Rods

II OBJECTIVES

Recovery Act Objectives

The planning, execution and closeout of this Recovery Act Project will contribute to the SRRAP goal of saving and creating a total of over 3,000 jobs. Hiring preference is given to the Central Savannah River Area with approximately 70% of the workforce coming from SC or GA. The nature of the work of this Recovery Act Project allow for the hiring of a wide range of skills and trades.

Programmatic Objectives

Accelerating the completion of EM mission activities of this Recovery Act Project will contribute to EM's programmatic initiatives of footprint reduction and accelerated solid radioactive waste disposal. Specifically, the scope of the validated performance baseline contributes to the overall reduction of EM's programmatic operational footprint by greater than 40%. Because much of the work scope is accelerated from the out-years, the solid radioactive waste generated will also be accelerated.

The acceleration of this work will also reduce the overall lifecycle cost and environmental liability. As such, a financial return on investment is expected, and will be assessed upon completion of this Recovery Act Project.

This Recovery Act Projects ties to the DOE and EM Strategic Goals and Themes listed below.

- DOE Strategic Goal 4 –Environmental Responsibility – Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.
- DOE Strategic Goal 5 – Management and Excellence – Enabling the Department's mission through sound management and business practices.
- EM Goals – To safely disposition large volumes of nuclear waste; safeguard materials that could be used in nuclear weapons; deactivate and decommission thousands of contaminated facilities no longer needed by the Department to carry on its current mission; EM is fulfilling its commitments to reduce overall risk and complete cleanup across all sites for generations to come.

Regulatory and Statutory Objectives

The SRRAP meets the requirements of the IAG with USEPA and SCDHEC and the RCRA Permit.

Public Benefits

Hundreds of on-site jobs will be created and/or retained by implementing this Recovery Act Project, stimulating the local economy. Major types of workers required for this work include construction labor, engineer, heavy equipment operator, field technician, truck driver, and administrative support worker. The large number of workers trained by completing this project will be available for future missions, including the energy park initiatives planned for the Nation and the Nuclear Renaissance. Personnel hired for this initiative could also provide a key source of employees to accomplish other the EM mission activities as the current aging workforce retires and as workers leave for other work offered in the expanding nuclear industry being experienced in the southeastern region of the U.S. Surrounding area businesses will also experience a job creation benefit from this work scope initiative. Additional off-site jobs will likely be created in the surrounding communities.

This Recovery Act Project fulfills the Government's responsibility to address nuclear weapons waste, allows earlier completion of legal compliance agreement milestones, and enables reuse of DOE assets and resources, including land and infrastructure, for other energy missions or community reuse through long-term leases. Moreover, areas of SRS can be used to establish Energy Parks after EM has completed its legacy cleanup, providing long-term quality jobs for the Recovery Project workforce.

Recovery Act Project Impacts

This Recovery Act Project makes significant progress towards completing the EM cleanup mission at SRS. The disposition of legacy TRU waste store at SRS will permanently remove the waste from SRS to an underground waste repository that will eliminate a long term storage cost and the significant source of potential hazardous material exposure in the event of a fire or natural disaster waste to workers and stakeholders in the Central Savannah River Area. The removal of the depleted uranium oxide (DUO) drums from the F and N Area storage facilities will remove a significant inventory of hazardous materials from the Site. The reduction of storage facilities will reduce the likelihood for future generations of large volumes of waste placed in storage. The acceleration of disposing these wastes will also require SRS to hire additional personnel, many in the local area around the Site, to perform various activities with handling, packaging, managing and transporting the generated waste.

Impacts from this project will include additional temporary site infrastructure cost to house additional workers including office trailers, parking facilities, water and sewer

improvements, and support services. The disposition of the 5,000 cubic meters of legacy TRU waste will result in additional WIPP trucks on the road between South Carolina and New Mexico than originally planned during this period. Additional impacts will be minimal and be mainly within the SRS site boundary.

The acceleration of this work will also reduce the overall lifecycle cost and environmental liability. As such, a financial return on investment is expected, and will be assessed upon completion of this Recovery Act Project.

III COST & SCHEDULE

Budget

Table 1. Budget Implementation Monthly & Yearly Obligations (Actual Costs for April 2009 through May 2010 Projected Costs for June 2010 thru FY2012 in $M)

The Project funding is subject to re-apportionment and will be finalized by 9/30/2010; the Project Operating Plan will then be reissued with an obligations table.

Table 2. Budget Implementation Monthly & Yearly Expenditures (Actual Costs for April 2009 through May 2010 and Projected Costs for June 2010 through FY2012 in $M)

The Project funding is subject to re-apportionment and will be finalized by 9/30/2010; the Project Operating Plan will then be reissued with a costs table.

Table 3. Funds Returned and Offsetting Collections ($M)

Provide description and amounts for Funds Returned and Offsetting Collections	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
	NA						

Indirect Costs

This work will be performed by an existing Management and Operating (M&O) contractor using an approved indirect rate structure. The estimated percent of Recovery Act Project indirect costs is approximately 28.45% for fiscal year 2010, 49.28% for fiscal year 2011, and 67.82% for fiscal year 2012.

In accordance with the general principles of the Recovery Act, DOE Savannah River Site will take the following steps to minimize the impacts of indirect costs and enhance transparency and accountability of project:

- Clearly identify the estimated full cost of projects to include total direct and indirect costs, indirect costs rates, and adjust existing indirect cost rate to account for the material infusion of funds provided in the Recovery Act;
- Ensure all funds transferred to contractors/subcontractors are completed using the Approved Funding Program process described in Chapter 12 of the Accounting Handbook; and
- Future reporting requirements include monthly reports on actual indirect cost rate.

Changes to Baseline Budget

Table 4. Changes to Baseline Budgets ($M)

Changes to Baseline Budget	Increase/ Decrease	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
NA								

Milestones (Recovery Act Baselines)

Table 5a. Milestones for SR-0013.R1.1, Solid Waste Disposition

Date	Title/Description
1/31/2011	Slit Trench #5 Cover Installation, Completion of construction activities associated with run-off cover system for E-Area Slit Trench #5
8/04/2011	Cover Installation on Slit Trenches 1-4, Completion of construction of run-off cover system for E-Area Slit Trenches 1-4
9/15/2010	Construction completion of the ET#2 sump. Final acceptance inspection complete and pipe between ET#1 and ET#2 sealed
10/27/2010	Engineered Trench (ET) #1 Construction Complete, ET #1 sump filled, waste placed in remainder of trench and access ramp backfilled
1/10/2011	710-B Closure Certification Report Submittal to DOE, Analytical and administrative activities complete with exception of submittal to SCDHEC
9/12/2011	N-Area RCRA Closure Certification Report Submittal, Analytical and administrative activities for clean closure complete including submittal to SCDHEC
9/12/2011	Consolidate N & B-Area RCRA Operations to E-Area, Receipt of mixed and hazardous waste in E-Area only
11/25/2009	First unit train shipment of DUO to offsite disposal facility
8/30/2010	DUO material shipment to Oak Ridge complete

Table 5b. Milestones for SR-0013.R1.2, Accelerated TRU Waste Disposition

Date	Title/Description
7/01/2010	Commence TRU operations in H-Canyon
11/30/2010	Commence box remediation activities in F-Canyon
12/30/2010	Complete TRU Pad 1 retrieval activities
12/31/2012	Complete disposition of 5,000 cubic meters of legacy TRU waste

NEPA Compliance

The scope of work is addressed in existing NEPA documents.

- Solid waste: SRS Waste Management EIS (DOE/EIS-0217; 60 FR 38817, 7/28/95) and record of decision (ROD) (60 FR 55249, 10/30/95) and Supplemental ROD (62 FR 27241, 5/19/1997) and EA for the Offsite Transportation of Certain Low-level and Mixed Radioactive Waste from the Savannah River Site for Treatment and Disposal at Commercial and Government Facilities (DOE/EA-1308, 2/2001)
- TRU waste disposition: WIPP SEIS (DOE/EIS-0026-S2; 62 FR 52998, 10/10/1997) and ROD (63 FR 3623, 1/23/98) and Amended RODs (67 FR 69512, 11/18/2002 and 69 FR 39456, 6/30/2004); SRS Waste Management EIS Supplemental ROD (62 FR 27241, 5/19/1997)

The DOE-SR NEPA Compliance Officer will monitor implementation and, as necessary, determine whether additional NEPA review is required.

Project Management

This Recovery Act Project underwent an independent project review (IPR) by EM's Office of Strategic Office of Strategic Planning and Analysis (EM-32). The initial on-site review was conducted during the week of July 27, 2009. The IPR report was issued on August 13, 2009. On November 4, 2009, EM-32 approves the final corrective action plan (CAP). During the week of December 14, 2009, the IPR team conducts a follow-up on-site review. On December 18, 2009, EM-62 (former EM-32) closes CAP and validates the performance baseline. On January 6, 2010, EM-62 issues completed final IPR report.

Table 6. Delivery Schedule for Capital Asset Projects

Program/OECM Milestone	Delivery (End) Date	Comments
Develop capital asset projects Integrated Project List	12/14/2009 (A)	This project is comprised of capital asset activities with a cost estimate of less than $10 million (i.e., general plant projects (GPP)) and

Table 6. Delivery Schedule for Capital Asset Projects

Program/OECM Milestone	Delivery (End) Date	Comments
		EM operations activities.
Develop Parametric Performance Baseline (Individual Projects)	7/7/2009 (A) and 12/14/2009 (A)	A performance baseline was delivered in July 2009 and subjected to an IPR. In conjunction with the IPR CAP, a new baseline was developed and submitted.
If < $100 M Perform IPR, ≥ $100 M Perform EIR (Individual Projects)	07/27/2009 (A) and 12/14/2009 (A)	IPR performed during week of 7/27/2009 with a follow-up review during the week of 12/14/2009.
Approve Performance Baseline	01/06/2010 (A)	EM-62 validated performance baseline.
Approve Start of Construction	NA	GPP and EM operations activities continued. No additional approvals were required.
Approve Project Completion	12/31/2012	Accelerated disposition of TRU waste is scheduled to continue into FY 2013.

IV PERFORMANCE

Performance Measures

The Project will regularly report on all aspects of project cost including indirect cost rate, schedule, performance, results and impacts. Reporting of the estimation of jobs created and retained will also be made.

Within ninety days after the effective date of the contract modification, the contractor shall propose to the Contracting Officer a Contract Performance Baseline, including a supplemental Performance Evaluation and Measurement Plan to accommodate the Recovery Act Project scope.

The period of performance for the Recovery Act work begins April 8, 2009 through December 31, 2012.

The following reporting procedure will apply to the submission of monthly cost reports for Recovery Act work specified in the accelerated work scope baseline.

- DOE will conduct a review of the contractor's proposed Earned Value Management System (EVMS) for compliance with ANSI/EIA-748 according

pursuant to DOE Order 413.3A. The contractor's EVMS was certified by OECM on February 26, 2010.

- The contractor shall certify in each monthly report that the costs included in the report for Recovery Act work were incurred only to accomplish the Recovery Act work in accordance with the accelerated work scope.

Table 7. Overall ARRA Project Performance Measure and Targets

Recovery Act Project Identification Code	Savannah River Site TRU & Solid Waste Recovery Act Project 2002153
Linkage To S-1 Priorities	National Security and Legacy - Accelerate disposition 5,000 cubic meters of legacy TRU waste.
Linkage to Current Program Goal (if applicable)	EM Goals – Environmental responsibility to protect the environment; and to safely disposition large volumes of nuclear waste
Three-Year (four for TRU) Outcome-Oriented Performance Measure	By the end of calendar year 2012 - Accelerate the disposition of 5,000 cubic meters of legacy TRU waste. By the end of fiscal year 2011- Dispose of all waste generated by ARRA projects and reduce the site's Solid Waste footprint by RCRA closing permitted facilities in B and N-Area and operational closure of Slit Trenches 1-5
First Year Performance Target (2009)	Complete retrievable legacy Contact Handled (CH)-TRU drum program by dispositioning 2,200 TRU waste drums
Q3 - Project-Level Quarterly Performance Milestone(s)	Mobilize TRU Pad 1 soil cover removal, Initiate WIPP characterization of Standard Waste Boxes TRU waste inventory
Q4 - Project-Level Quarterly Performance Milestone(s)	Award Depleted Uranium Oxide (DUO) 16,000 drum disposition subcontract.
Second Year Performance Target (2010)	Complete disposition of DUO (6,200 drums) and TRU Pad 1 soil cover and waste removal
Q1 - Project-Level Quarterly Performance Milestone(s)	Initiate TRU container remediation/repackaging in F- and/or H-Canyons, Complete 1st unit train shipment of depleted uranium oxide (DUO) to disposal
Q2 - Project-Level Quarterly Performance Milestone(s)	Approve Closure Plan for 710-B. Complete CH TRU Waste Poly-box repackaging (800 boxes),

Table 7. Overall ARRA Project Performance Measure and Targets

Recovery Act Project Identification Code	Savannah River Site TRU & Solid Waste Recovery Act Project 2002153
Q3 - Project-Level Quarterly Performance Milestone(s)	Complete DUO disposition (6,200 drums), Complete TRU Pad 1 soil cover and waste removal, Complete shipment of 805 DUO drums to Oak Ridge, Tenn.
Q4 - Project-Level Quarterly Performance Milestone(s)	Complete repackaging of 25 Large Steel Boxes (1050 cubic meters) of TRU waste, Complete ET 2 sump construction
Third Year Performance Target (2011)	Complete disposition of more than 3,000 cubic meters of legacy TRU waste and reduce the site's solid waste footprint by RCRA closing N and B-Area facilities
Q1 - Project-Level Quarterly Performance Milestone(s)	Complete construction of the F-Canyon Box Repackaging Facility
Q2 - Project-Level Quarterly Performance Milestone(s)	Slit Trench 5 cover installation complete, Final RCRA closure certification report for 710-B submitted to SCDHEC
Q3 - Project-Level Quarterly Performance Milestone(s)	Complete TRU drum remediation
Q4 - Project-Level Quarterly Performance Milestone(s)	Slit Trenches 1-4 cover installation complete, Final RCRA closure certification report for N-Area submitted to SCDHEC, Hazardous and mixed waste operations consolidated to E-Area
Fourth Year Performance Target (2012)	Accelerate disposition of 5,000 cubic meters of legacy TRU waste
Q4 - Project-Level Quarterly Performance Milestone	Complete box repackaging/remediation, Complete disposition of 5,000 cubic meters of legacy TRU waste

National Strategic Benefits

Table 8. National Strategic Benefits

1. Carbon Emission Reductions: Estimated 5-year undiscounted CO_2 reduction (in metric tonnes of CO_2 equivalent) are [fill in the blank]
2. Oil Consumption Reductions: Estimated 5-year reduction in undiscounted oil consumption (in barrels of oil equivalent) is [fill in the blank]

V MANAGEMENT

Secretarial-level Items

Table 9 depicts the linkages between short term (5 year) qualitative and quantitative benefit estimates and the Secretarial-level Priorities through September 2014

Table 9. Secretary's Priorities

Secretary's Priorities	Project Impacts (Qualitative)	Project Impacts (Quantitative)
Science and Discovery	NA	NA
Clean, Secure Energy	NA	NA
Economic Prosperity	The accelerated disposition of radioactive waste reduces the liability of increased costs in the future.	NA
National Security and Legacy	NA	NA
Climate Change	NA	NA

Collaboration and Coordination

There will be an acceleration of waste shipments to Waste Isolation Pilot Plant (WIPP) in New Mexico. To streamline the waste certification process, better integration of all activities between DOE-SR and CBFO will be established.

The DOE Nevada Test Site, EnergySolutions in Utah, and other commercially-operated waste treatment / storage/disposal facilities will be needed to support treatment and disposal of waste generated during the Recovery Act Project. Coordination with these interfaces already exists however will be enhanced throughout this project. Maintaining continuity of available disposal capacity for Class A and Greater-Than Class A Mixed Low Level Radioactive Waste is important to the project.

The DOE-SR Office of Acquisition Management will continue to work closely with DOE-EM and DOE-MA to ensure timely business clearance approval for procurement actions that exceed local authority.

DOE-SR will work with DOE-EM and other headquarters organization to revise or provide clarification to DOE Order 5400.5 (DOE Rad Release Criteria) to facilitate material disposition.

The Savannah River National Laboratory will continue to provide the technical and research core competency capabilities, provide analytical services, and support Performance Assessment completion for the solid waste trenches.

Training programs and/or courses may be set up in the local universities and/or technical colleges for identified positions which may require additional training outside of standard site training courses.

There are many external interfaces associated with the normal operations at SRS. These include:

- **Regulatory** - SRS Citizens Advisory Board, Environmental Protection Agency, South Carolina Department of Health and Environmental Control, Department of Transportation, Nuclear Regulatory Commission, and Defense Nuclear Facilities Safety Board
- **Community** - SRS Citizens Advisory Board, Central Savannah River Area Counties, Surrounding States, Nevada, New Mexico, and Utah
- **Industry** - Environmental Engineering/Remediation, Waste Management, Construction, Cement, Container, Transportation, Housing, Utilities, etc.
- **Other** - Other SRS Contractors, Labor Unions, Parent Companies, Local Universities/Colleges

Federal Infrastructure Investments

This Recovery Act Project provides for work on critical infrastructure that continues to age and has degraded to a state that loss would have a significant adverse affect on facility and/or site operations.

Line Management

DOE-SR intends to use existing EM site systems and practices to effectively monitor and report on the Recovery Act Project activities, including:

- Fully implement all Recovery Act transparency and reporting requirements through modifications to the contract that will fund this Recovery Act Project.

- Continue applying project management principles to Recovery Act Project execution, including reviewing and validating EM project cost and schedule baselines consistent with DOE Order 413.3 and identifying project risks and strategies for managing them.
- Continue use of industry standard Earned Value Management System (EVMS) to compare actual project scope, cost, and schedule performance against planned performance as depicted in the baseline.
- Continue monitoring of the contractors' EVMS reports to ensure the Recovery Act Project is on track and, if not or if trends are in a negative direction, to develop and implement corrective actions.
- Hold monthly management reviews to provide updates on the Recovery Act Project to EM's senior-most executives.
- Secure support service contractors to provide limited augmentation of federal procurement, budget and finance, project controls, and technical oversight capabilities for the Recovery Act Project.
- Assign appropriately qualified staff to the Recovery Act Project to provide technical and programmatic oversight of the contractors performing the work and be the day-to-day governmental interface and manager for the project.
- Use an Integrated Project Team (IPT) of Federal and contractor staff with project knowledge and subject matter expertise essential to the successful planning and execution of the project – including safety, risk management, engineering, quality assurance, contracts administration, and project controls.
- Develop detailed risk management plans for the Recovery Act Project to identify and mitigate risks, and assign roles and responsibilities for managing the risks.

Needs from Staff Offices

DOE-SR has not identified resource needs from other DOE Staff Offices.

Human Capital

DOE-SR intends to use support service contractors to provide limited augmentation to federal staff in the areas of procurement, budget and finance, project controls, and technical oversight. DOE-SR is nearly staffed to the DOE Environmental Management program's "Best-In-Class" federal staffing levels for both acquisition and project controls. DOE-SR has hired hiring additional Facility Representatives to provide technical oversight of contractor activities. DOE-SR is in the process of hiring additional contract specialists to support increased oversight of contractor procurement activities, including the conduct of post-award reviews and audits. Priority execution of security clearance requests may be required.

Table 10. Information on Hiring Under the Recovery Act

# & Type of Positions (Title, Series and Grade)	Location (HQ or Field – w/location)	Federal or Contractor	Timeframe (1-6mos; 6+mos; other; specify date needed if possible)
A wide variety of skills, trades and professions. The initial goal of SRRAP is 3,000 jobs.	SRS	Contractor	April 2009 through December 2012

Table 11. Procurement Plans

Activity	Type	New/ Exist (N/E)	Changes (E), Needs (N)	Status	Expected Complete	Issues (Y/N)
Savannah River Nuclear Solutions Management and Operating Contract	DOE Prime Contract	E	(E) Funding Modification	Modification pending receipt of funds	Modification complete w/in 10 days after receipt of funds	N
F-Canyon Box Remediation Enclosure Design	SRNS Sole Source Subcontract	N	(N) Approval of Sole Source Justifications	In Procurement Process	5/2010 (A)	N
Waste Containers (SWB, SLB-2, TDOP)	Contract through WIPP	N	(N) WIPP Procurement Actions	Contract Placed	Delivery on-going	N
Critical Heavy Equipment Leasing	SRNS Lease	N	N/A	In Procurement Process	5/2010 (A)	N
TRUPACT III	Contract through WIPP	N	(N) WIPP Procurement Actions	In Process	6/2011	N
TRUPACT III Mobile Loading Equipment	Contract through WIPP	N	(N) WIPP Procurement Actions	In Process	6/2011	N
Interim Storage of DUO	DOE subcontract	N	(N) Procurement Actions	In Process	9/2011	N
Waste Treatment Contracts	SRNS subcontract	N/E	(E) Scope Modification	In Procurement Process	Open, Task Order Issued As Treatment Need Is Identified	N
Staff Augmentation	SRNS subcontract	N/E	N/A	Contracts Placed	As Needed	N